

## Practice Quiz 7: Mortgage Borrowing

1. Jack and Jill are looking for a new home and find a \$400,000 house that they like. Their bank offers them a 30-year mortgage at a 7% APR with a 15% down payment and no points. Calculate the monthly payment for this mortgage.
2. Their bank also offers Jack and Jill a 15-year mortgage at a 6.25% APR for the \$400,000 house, also with a 15% down payment and no points. Calculate the payment on this mortgage.
3. If Jack and Jill are willing to pay two points, their bank will drop the APR on the 30-year mortgage in problem 1 to 6.5%. Calculate the implicit APR on this mortgage assuming Jack and Jill stay in the home for (a) 30 years, (b) 10 years, and (c) 4 years.
4. If a student graduates with a \$12,000 in student debt at a 5% APR to be repaid over 10 years, what will her monthly payment be?
5. Albert just graduated from a top law school and was hired by a successful practice in his home city with a starting annual salary of \$120,000, but carries \$30,000 in student debt at a 6% APR to be repaid over 10 years. Albert has no other debt. Property tax in his city is 2% and homeowner's insurance is 0.5% of a home's value. With a down payment of 20%, his bank will provide him a 30-year mortgage at a 4.5% APR. If his bank requires a housing expense ratio of 28% and a maximum total expense ratio of 35%, what is the most expensive house Albert can buy?